



NewsLetter

Week of Nov. 11, 2002

Vol. 3, No. 22

NNSA recognizes 'exceptional service'

Twenty-nine Laboratory employees recently received a special coin from the National Nuclear Security Administration (NNSA) in recognition of their "exceptional service."

The coin was commissioned by former NNSA Administrator John Gordon to recognize employees at NNSA sites for their hard work and dedication to the organization. Recipients of the coin were identified by their sites. About 200 coins were distributed among the NNSA work force of approximately 42,000 federal, military and contractor employees. Those recognized include employees in programs, support and management.

The two-sided coin has NNSA and its logo inscribed on one side and the name of the former NNSA administrator on the other side.

The NNSA, which officially began operations on March 1, 2000, is tasked with carrying out the national security responsibilities of the Department of Energy, including maintenance of a safe, secure and reliable stockpile of nuclear weapons and associated materials capabilities and technologies; promotion of international nuclear safety and nonproliferation; and administration and management of the naval nuclear propulsion program. Gen. Gordon took over the helm of NNSA in June 2000 and stepped down earlier this year to join the National Security Council.

The following 29 employees received a coin from NNSA:



Babs Marrone, left, of the Bioscience (B) Division and Laboratory Director John Brownne admire a coin Marrone received from the National Nuclear Security Administration (NNSA). She was one of 29 Lab employees awarded the coins in recognition of their "exceptional service." Photos by LeRoy N. Sanchez

Carolyn Zerkle

Carolyn Zerkle of Infrastructure Facilities and Construction (IFC) has been instrumental in the development of fundamental concepts that are a basis of our Ten Year Comprehensive Site Plan. The TYCSP integrates missions and facility requirements within anticipated budgets.

Kyo Kim

Kyo Kim took over the Office of Authorization Basis (PS-OAB) and managed a nearly impossible task that has put us well on the road to meeting Appendix O requirements. His accomplishments include getting five AB documents through the Department of Energy.

Gilbert Montoya

Gilbert Montoya of Solid Waste Operations (FWO-SWO) managed the Transuranic Waste Inspectable Storage Project that removed approximately 17,000 drums and 200 Reinforced Fiber Glass Package crates from above ground earthen covered storage pads (two years ahead of schedule, \$18 million under budget).

Larry Lucero

Larry Lucero of Manufacturing Systems (NMT-6) was instrumental in the Laboratory establishing a War Reserve Quality Program for detonator production and answered the call to move to the Pit Manufacturing Project.

David Mann

As the product engineer for the W88 pit, Dave Mann of Manufacturing Systems

(NMT-6) was the person on the front line and fought the hour-to-hour fires associated with delivering a certifiable pit by April 3.

Mike Butler

Mike Butler of Weapon Systems Engineering (ESA-WSE) has been central to establishing a path forward for declaring the newly manufactured W88 pits as certifiable and ultimately Diamond Stampable. Mike has assumed a significant leadership role and has assembled an outstanding team to restore this nation's ability to certify newly manufactured pits.

Tom Lyttle

Tom Lyttle of Experiment and Diagnostic Design (D-5) is the project leader for the W76 Life Extension Program. The W76 Team is the first life extension program to apply formal project management systems to a weapons project and Tom has done an outstanding job of organizing and leading this highly complex effort.

Mary Anne With

Mary Anne With of Science and Technology Base (STB) Programs has been the force behind the Laboratory's postdoctoral program, our most effective TSM pipeline and arguably the strongest postdoctoral program in the complex.

Mike Burns

Mike Burns of the Nonproliferation and International Security (NIS) Division was recognized for his work on DARHT, an exceptional machine for radiography and stockpile stewardship.

Nancy Holt (Simpson)

Nancy Holt (Simpson) of the Business Operations (BUS) Division was recognized for her support to financial planning in Defense Programs and NNSA's Planning, Programming, Budgeting and Execution System.

Dennis L. Shampine

Dennis Shampine of Detonator Technology (DX-1) has worked on numerous local small-scale physics experiments. His contributions have allowed considerable progress to be made in determining the dynamic properties of a wide-range of programmatically relevant materials.

John Balog

John Balog of Materials Technology Metallurgy (MST-6) is arguably the best CNC machinist at Los Alamos. He has demonstrated this expertise this past year through his contributions to the Octave Experiments.

Maurice Sheppard

Maurice Sheppard of the Applied Physics (X) Division was recognized for his technical excellence in primary certification.

Fabrizio Petrini

Fabrizio Petrini of the Computer and Computations Sciences (CCS) Division was recognized for his pioneering work in performance-prediction breakthroughs as applied to ASCI hardware (particularly the Q machine) and ASCI computer codes.

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When it's snowing outside



There are two hotline numbers that workers can call to find out about the status of Laboratory operations during inclement

weather. The UPDATE hotline is the Lab's official, primary source for obtaining such information. **Page 5**

Into the wild blue and beyond

Donald Pettit, now an affiliate of Applied Engineering Technologies (ESA-AET) and formerly a full-time technical staff member at the Laboratory, has been chosen by NASA to join the Expedition 6 crew to the International Space Station. Expedition 6 is scheduled to launch this month for a four-month stay aboard the ISS. **Page 8**



Lab honors country's veterans with events Nov. 12

Laboratory Director John Browne, right, and Randy Mynard, left, of Environmental Geology and Risk Analysis (EES-9), look at the new veterans long-sleeve T-shirt last month in Browne's office. Mynard designed the T-shirt, presented to Browne on behalf of the Laboratory's Veterans Committee. The first 475 Lab personnel who registered and completed the fun run/walk this week received a T-shirt. Next to Mynard is Allyn Pratt of Restoration (RRES-R). Pratt in January will succeed Mynard as chairman of the Lab's Veterans Committee. *Photo by LeRoy N. Sanchez*

Plutonium: particle size matters

by Ed Vigil

Laboratory researchers have found a better way to measure plutonium oxide particles in glove boxes where plutonium research is conducted. The new system will help improve the quality and safety of several key plutonium processes.

Los Alamos technician Carl Martinez of PIT Disposition Science and Technology (NMT-15) presented his findings on improved glove-box measurements of plutonium-oxide-particle size at the Rocky Mountain Regional meeting of the American Chemical Society in October.

Martinez' work focuses on the implementation and use of a new Beckman Coulter Counter particle-measurement instrument. The Coulter Counter unit is one of three instruments that will be used to gather particle data with a third instrument being installed this month. The project is part of a quality-assurance initiative at NMT-15.

Using off-the-shelf instrumentation such as the Coulter Counter, Lab researchers are working to improve the methods and quality of the data gathered. With just two of the three instruments up and running, the researchers have begun to take data and have begun the process of comparing the

data and evaluating the instruments.

Once all three instruments are online, data from all the instruments will be taken and compared to one another as well as against existing standards. "This in turn will help us create a baseline for developing a systematic approach for measuring plutonium

oxide and how process changes affect particle size," said Donna Smith, also of NMT-15.

In addition to providing valuable data, the new quality improvement initiative will help to ensure that production is meeting program specifications and that methods and processes employed remain safe, with the majority of measurable plutonium-particle size above 5 micrometers. "The data and information that we have gotten so far has been invaluable and will help us as we continue forward with our plan," Martinez said. "It will be very helpful in ensuring the quality and safety of our oxide operations."



Carl Martinez

Los Alamos NewsLetter

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Los Alamos enhances global security by ensuring safety and confidence in the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction and improving the environmental and nuclear materials legacy of the Cold War. Los Alamos' capabilities assist the nation in addressing energy, environment, infrastructure and biological security problems.



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Snow's here

During inclement weather, dial UPDATE at 7-6622 or 1-877-723-4101 (toll free) to find out about delays or closures at the Laboratory.

Weathering the drought

Recent rain and snow enough to stem drought?

by Fran Talley

Despite recent rain and snow and predictions for a wetter than normal winter, the drought is deepening and intensifying across the southwest, according to Laboratory ecologists.

"We're in the middle of a long-term drought," said Diana Webb of Risk Reduction and Environmental Stewardship (RRES-DO) and chair of the Interagency Wildfire Management Team. "We are experiencing a natural phenomenon. Unfortunately, our forests are not healthy. The trees are overcrowded, stressed and weak from lack of moisture in recent years. Healthy trees can fight back against insects or disease, but drought-stressed trees are susceptible to many types of problems," she said.

Long-term forest health problems such as infestation with various bark beetles are not likely to be mitigated by current weather conditions. "Typically we get about 18 inches of precipitation a year," said forest ecologist Randy Balice of Ecology (RRES-ECO). "During the past 12 months, we've only had about 50 percent of that."

Balice said the current climate outlook for this winter indicates that precipitation will be about 5 percent above normal for



The bark beetle infestation has affected large numbers of trees in and around the Los Alamos area and nearby communities as shown in this photo of Pueblo Canyon looking east toward Santa Fe.

Photo by LeRoy N. Sanchez

the region. "That extra 5 percent means only one extra inch," he said. "That may not be enough to significantly alter high-fire conditions and the drought-caused mortality. It may not be enough moisture to revive the trees."

Another factor, said Balice, is that temperatures for the past 12 months have been about 4 percent above normal, adding that a forecast of normal temperatures and a

minimal increase in moisture indicate the probability of another extreme fire season and continued tree mortality in 2003.

Severe drought also has radically increased bark beetle activity in Northern New Mexico. "Beetles are attracted to stressed and dying trees," said insect ecologist Tim Haarmann, also of RRES-ECO.

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Lab moves to streamline infrastructure work

FMUs move to FWO

by Judy Goldie



"Is it broke? Probably not. Can we do it better? Yes!" said Tony Stanford, Facility and Waste Operations (FWO) Division leader, in discussing the realignment of facility management units (FMUs) at a meeting for affected employees this summer.

Bringing an estimated 250 additional University of California employees into FWO to be "deployed" via facility-service agreements to

their previous organizations, these transfers will draw together all those working directly on building operations and maintenance.

In the short term, customer organizations should see no difference in the way business is conducted; in fact, organizations will continue to contact the same people they had under the previous facility management model, said Mitch Harris, the FWO Facility Revitalization Program manager.

The consolidation of "building envelope"-related functions and the people who perform them, such as fire protection, boiler maintenance, roofs, utilities and the centralized administration for all this work, will eventually provide economy of scale, through combining resources, standardizing programs and providing more efficient work processes. This dovetails neatly into the Enterprise Project's overall plan to standardize the myriad Laboratory processes, added Harris. The ER Project will guide the Laboratory through the process of reengineering its business processes and systems in four key areas: financial, human resources, facilities management and project management.

In many cases, it is far more efficient to work with a core organization, those centralized in FWO, than to go to 15 separate FMUs, repeating the same message and repeatedly instituting the same changes, said Harris. "For example, we don't need multiple boiler-maintenance programs when one centralized program can meet our requirements much more efficiently," he said. There is more commonality between sites than might be imagined. We need to recognize that while we have unique operations, we also have a lot of standard industrial processes that can be improved by implementing proven processes, typically referred to as commercial best

practices, developed outside the Lab by similar non-Department of Energy industrial facilities, he noted. "We have to give the competitive advantage to our scientific programs and meet the direct needs of the Laboratory; stove-piped organizations can't efficiently do that," he added.

This two-phased effort was begun after a series of oversight reports indicated that the Laboratory was not fully leveraging its resources from an institutional perspective, Harris said. The current Lab model of implementing facilities management is "optimized" at the division level at the expense of institutional efficiency and economies-of-scale, he said.

Phase I, Transition, entails the transfer of the existing facility-management organizations from current division ownership into a consolidated-management structure under FWO. A committee reviewed the work done by all the members of the FMUs to determine which facility management functions should be transferred to FWO. FWO then negotiated with each division to determine which personnel would be transferred to FWO as part of Phase I, Transition.

This FMU realignment is one step in the first phase of the quality effort to improve the way the Lab handles its facility-management infrastructure and is aimed at reducing costs, improving service and facility condition, providing enhanced career opportunities and "doing a whole lot more with what we have," Harris said.

It is during Phase II, Transformation, that substantive benefits of the realignment will be realized, Harris said. During this phase, the now-unified facilities-management team and customer organizations will work together to identify, plan and implement significant organizational, process and technology improvements. "For example, we are now looking at completely different ways of more effectively using our new support services subcontractor," he said.

During Phase II, FWO will be actively seeking input from its customers and facility-management organizations to determine the best way to service customers and provide them with the competitive advantage they deserve.

"We are building on the best practices created in the FMUs and that of a centralized service model and blending them," said Harris. "We're not going to throw out what works well, FM customer responsiveness will prevail. We will continue to consider responsiveness to the customer organizations crucial," he emphasized. "We want to leverage off the existing FM programs," he added.

For more detail on the two phases and frequently asked questions about them, see the FWO Web site at http://arania.lanl.gov/ifmpo/htmls/fm_trans.htm or contact Harris at mharris@lanl.gov by e-mail. FWO also maintains an e-mail address specific to this project: FRP@lanl.gov.

Groundbreaking ceremony held for Laboratory's new BSL-3 facility

Laboratory Director John Browne joined other Lab staff and Department of Energy personnel in breaking ground for Los Alamos' new Biosafety-Level 3 facility at Technical Area 3. Joining Browne from left to right are Julie Wilson, a retiree from the Bioscience (B) Division; Tom Rush of the Los Alamos Office of Site Operations; John-Olaf Johnson of the Department of Energy's Albuquerque Office; Jim Brainard of B Division; Pete Nanos of the Associate Director for Threat Reduction Office; Jim Pannucci of B Division; Director Browne; Jill Trehwella, B Division leader; Don Cobb, associate director for threat reduction; and Larry Tellier, also of B Division. Browne, in his comments at the ceremony noted that the communications process developed for the facility sets a new precedent for future Laboratory projects, a model of cooperative communication between the Laboratory, the Department of Energy and the community. Trehwella noted that the support and understanding of the community was a key factor in bringing the project to life. "We talked to hundreds of people about this project. They not only listened, they also heard. Our local county council and Sierra Club chapter came out with letters of support, an unprecedented step ... all of the small acts of support that we felt along the way made the difference for us," she said. Photo by LeRoy N. Sanchez



Recent rain ...

continued from Page 3

"They've been known to fly up to 2 miles to reach an intended host tree. However, once beetles have invaded an area and populations reach epidemic levels, there are often enough beetles to overcome and kill even healthy trees. The bark beetle infestation we are currently experiencing is nature at work. We are merely observers watching Mother Nature take her course."

The current tree die-off is not a result of the forest fires of the past few years.

"Certainly the drought, coupled with overcrowded conditions, is the significant factor contributing to the infestation, which is a regional problem occurring far from the Cerro Grande Fire area and from where tree-thinning is taking place," said Carey Bare, RRES-ECO Natural Resources team leader. "Future tree mortality is very difficult to estimate and is highly dependent on the length and severity of the drought. Some estimates range as high as 90 percent for some species in some areas," he said.

"We are emphasizing certain aspects of our thinning prescriptions as a result of the beetle infestation, although fire hazard is still the main consideration in prioritizing areas to be thinned," Bare explained. "Forests are being treated on an area-by-area basis with all factors considered in removing trees at that time."

He said that the Laboratory is emphasizing removing dead, dying and potentially hazardous trees while leaving larger, still-healthy ones. Adequate numbers of small trees with greater resistance to the beetle are being retained. Slash and logs are being removed from the thinning areas in as short a time as is practical, he said, adding that during the winter months, the Lab plans to re-enter areas already thinned to removed additional dead and dying trees.

"Obviously, these changes in our forest have affected wildlife on Lab property," Bare added. "By monitoring animal migration and behavior, we are better able to manage their natural habitat. Through planned

thinning and by leaving some of the dead trees behind, we can provide important cover or homes for many wildlife species, from mammals to birds and insects.

"For now, and for the next few years, we can expect to see dead and dying trees throughout the Pajarito Plateau," Webb said. "We have close ties to our forests, and watching this process will be hard. However, there is little we can do to reverse this — once the trees start to turn brown, they cannot be brought back. While these

changes may be visually disturbing to us now, we need to remember that this is nature's way of thinning our forests and that the long-term result will be a healthier forest in the future."

The National Drought Mitigation Center posts weekly weather-condition updates; these are found on the U.S. Drought Monitor Web site at <http://www.drought.unl.edu/dm/monitor.html> online.

For more information, contact Balice, Haarmann or Bare in Ecology at 7-0730.

Bark beetle fact sheet

There are two primary beetles infesting Northern New Mexico trees. Piñon ips, *Ips confusus*, is currently attacking piñon pine trees. The mountain pine beetle, *Dendroctonus ponderosae*, infests ponderosa pine. This fact sheet, generalized for the two beetles, was prepared by Tim Haarmann and Carey Bare of RRES-ECO and Deanna Williams of the U.S. Forest Service. For more information go to the USDA Forest Service Web site at <http://www.na.fs.fed.us/spfo/pubs/fidlpag.htm> on line.

- Beetles spend their entire life under the bark of infested trees except for a few days during the summer when adults emerge and fly to new trees.
- Usually during late summer and early fall, female beetles construct egg galleries under the bark, mostly in the phloem, or inner bark, of newly infested trees. Sometimes, eggs also are laid in late spring by females that survived the winter. Surviving females may either reemerge and reattack trees or merely extend their egg galleries.
- Beetles usually require one year to complete a life cycle. At high elevations where summer temperatures are cool, two years may be required to complete the life cycle. However, during unusually warm years, several generations can be completed in one year.
- The beetles have already completed their flight for this year. Look for boring dust or pitch tubes to identify newly infested trees (Figure 1).
- Unseasonably low temperatures may slow outbreaks. It is not certain how long these temperatures need to be maintained before most beetle larvae are killed.
- Unfortunately, beetles may still survive on warmer slopes and reinfest areas in a few years. In addition, beetles in thick-barked trees and in portions of tree trunks that are below the snow line are protected from the cold and are more likely to survive.
- A cold winter with little snowfall may slow the outbreak but would probably need to occur for several years. Food supply is generally the most limiting factor that returns beetles populations to endemic levels.
- A wet winter may reduce the stress that some trees are under, allowing them to effectively "pitch out" invading beetles (Figure 2). However, even a healthy tree cannot effectively fight off a mass attack once beetle populations reach epidemic levels. A wet winter is unlikely to kill larvae unless temperatures drop below those mentioned previously.
- Large diameter trees with thick phloem are often first to be attacked, but as beetle populations increase and preferred food sources become scarce they will begin to infest smaller diameter trees.
- The best case scenario we can hope for is that with relief from the drought, beetles may be prevented from infesting some areas. However, as stated previously, food supply is the most limiting factor for beetle populations once they reach epidemic levels. Forestry practices may be able to help in some situations, but if they are not applied with extreme care, they may actually exacerbate the problem by producing more beetle food in the form of green slash left after logging and trees stressed and damaged by logging equipment.
- Homeowners may be able to save individual trees by watering and fertilizing. Contact the Cooperative Extension Office in Los Alamos at 662-2656 for further information about applying insecticides to certain high-value trees. Specific guidelines are available for recommended homeowner and forestry practices.
- The worst-case scenario we can expect is that the drought will continue and with beetle populations at epidemic levels almost all mature Piñon and Ponderosa Pine trees will be infested. There is no clear model for predicting rate of spread. It is known that thousands and even millions of acres of trees have died from bark beetle outbreaks.
- At the Laboratory, trees with visible evidence of bark beetle are being cut and, rather than being distributed to the public, are disposed of in burn units.
- Bark beetles look similar to the common observer. Photos were obtained from USDA Forest Service, Forest Insect and Disease Leaflets.



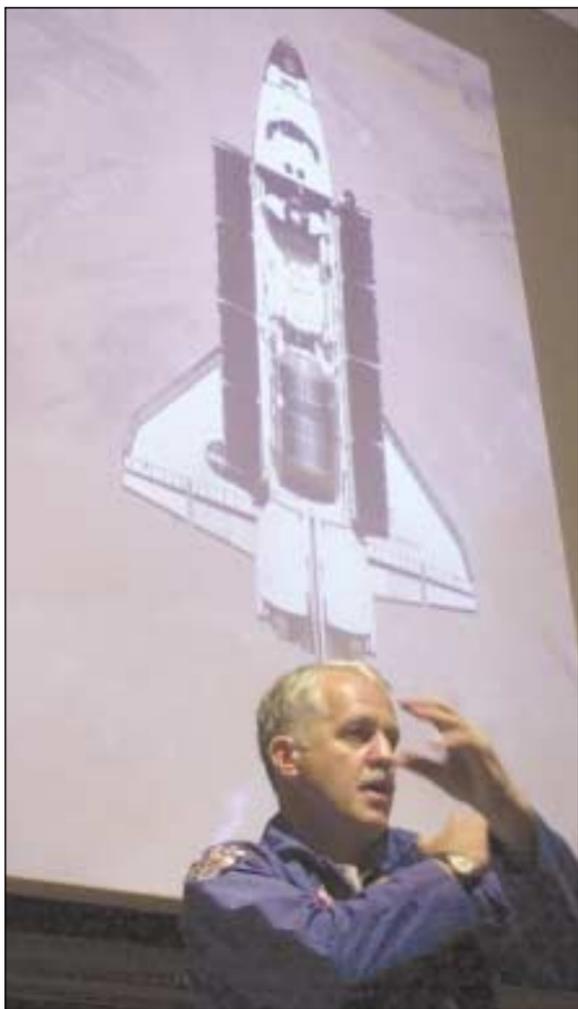
Figure 1: Reddish brown boring dust at the location of a recent attack.



Figure 2: Tree has successfully "pitched out" beetle



Figure 3: larvae in feeding galleries in the inner bark



From Los Alamos to the Space Station: 12 days in space

by Ed Vigil

Space shuttle astronaut and former Lab researcher, John L. Phillips spoke to a group of Lab employees last month in the Physics Building Auditorium. The talk was about his recent mission aboard the Space Shuttle Endeavor to the International Space Station.

As flight engineer aboard NASA's STS-100 mission, Phillips was part of a seven-person, multinational crew that helped deliver and install a Canadian-built robotic arm on the space station. The space shuttle took off April 19, 2001, and spent 12 days in space. In addition to the arm, they also brought along supplies and scientific experiments as part of their shuttle mission's payload. The crew was made up of four Americans, a Canadian, a Russian and an Italian astronaut in what Phillips described as "seven guys in a van," referring to the close quarters aboard the spacecraft.

To prepare for STS-100, Phillips spent two years in astronaut training as part of a four-year-long process to prepare him for space travel. In addition to his flight engineer duties, Phillips also was the third backup for any of the mission space walks, choreographer for the space walks that took place during the mission and IMAX 3-D filmmaker.

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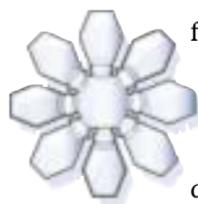
Former Lab technical staff member turned astronaut John L. Phillips talks about his Space Shuttle experiences at a talk last month in the Physics Building Auditorium at Technical Area 3. Behind Phillips is a NASA photo of the Endeavor mission vehicle in which Phillips served as flight engineer.

Photo by LeRoy N. Sanchez

When it's snowing outside ...

by Kathy DeLucas

Wondering if the Lab will be open or delayed because of snow?

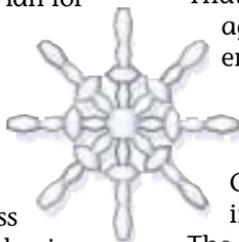


There's a toll-free hotline that workers can call to find out about the status of Laboratory operations during inclement weather. That toll-free number is 1-877-723-4101. The toll-free number provides easy access to the UPDATE phone number that employees should call to find out if the Lab's operating schedule is affected by winter storms. The hotline is the Lab's official, primary source for obtaining such information.

The local phone number for Santa Fe and Los Alamos residents is 667-6622. The message will not change unless there has been a change in schedule at the Lab or new information concerning an emergency.

The Laboratory's Early Dismissal/Closure/Delayed Opening Plan for determining the Lab's operating schedule because of inclement weather involves several resources. Gene Darling of Emergency Management and Response (S-8) said the duty emergency manager at S-8 keeps up with the latest local forecast and usually knows ahead of time if a weather system can potentially affect the Lab's schedule.

In the case of Lab closures or delayed openings, the process usually begins around 3 a.m. The duty emergency manager begins receiving calls from the support services subcontractor's roads and



grounds group, Protection Technology Los Alamos and Utilities and Infrastructure (FWO-UI) to receive information on road conditions at the Lab. The duty emergency manager calls the State Highway and Transportation Department, Los Alamos Police Department, the State Police and Meteorology and Air Quality (RRES-MAQ) for weather and additional information.

Once the duty emergency manager has received the latest information concerning road conditions, the support services subcontractor's progress in clearing sidewalks and parking lots, current weather conditions and the forecast for what is expected to occur later that day, he or she discusses the situation with other S-8 personnel before contacting the Director's Office. There are several backup contacts throughout each phase of the plan in case the primary contact cannot be reached for any reason.

That person then confers with Department of Energy senior managers. The final decision and authority on whether to close entirely, delay opening or dismiss early rests with the DOE Los Alamos Area Office. Once such a decision has been made, the duty emergency manager is contacted and S-8 personnel call the primary contact in the Public Affairs (PA) Office. Public Affairs places the message on the UPDATE information hotline.

The entire process for delayed opening or Lab closure usually is completed before 5:30 a.m., giving Lab employees and contractor personnel time to find out what the situation is at the Lab. Darling says the plan works relatively well when bad weather occurs very early in the morning, but there's really not much S-8 can do in terms of warnings when bad weather strikes the area unexpectedly after 5 a.m. "There's just no time to adequately respond to the situation," he said.

If it's a delayed opening or closure, Public Affairs also calls various radio and television stations, asking them to report the Lab's operating status.

In the case of an early dismissal, a message is immediately recorded on the UPDATE Information Hotline and placed in the online Daily Newsbulletin. Electronic mail announcing the early dismissal also is sent to master management and administrative distribution for dissemination to all employees.

Emergency Management personnel also contact the Los Alamos Public Schools superintendent, Los Alamos County and state police, PTLA and other organizations.

Personnel who are at work and want to know if the Lab is closing early can periodically call the UPDATE hotline (7-6622) or check the Daily Newsbulletin at <http://www.lanl.gov/newsbulletin> online. Remember to click the "Reload" button if you have previously accessed the site.

Lab workers who are at home and want to know if the Lab is on a delayed-opening schedule or is closed for the day should call the hotline first. Listen to the news on radio or television stations. For more information about the Lab's Early Dismissal/Closure/Delayed Opening Plan, call 7-6211.

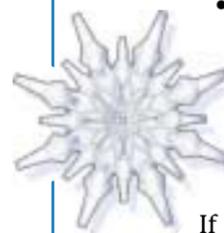


Don't be a wreck on the road!

There are almost as many opinions about how to drive safely on ice or snow as there are automobiles. But, a few precautions can help when the unexpected occurs:

- Remember that bridges and overpasses freeze first. Slow down and avoid sudden changes in speed or direction.
- Keep windows clear of snow and ice.
- Maintain a steady speed, but not too slow. In deeper snow, it's often necessary to use the car's momentum to keep moving.
- Use brakes cautiously. Abrupt braking can cause brake lock-up, which may result in loss of steering control.
- For antilock brakes, apply constant, firm pressure to the pedal. During an emergency stop, push the brake pedal all the way to the floor, if necessary, even in wet or icy conditions.
- If stuck in snow, straighten the wheels and accelerate slowly. Avoid spinning the tires. Use sand or cinders under the drive wheels.

If it is necessary to drive in inclement weather, call 1-800-432-4269 or log on to the New Mexico State Highway and Transportation Department Web site at www.nmshtd.state.nm.us/ for the latest in road closures and related traffic news. And for Laboratory early closure, full-closure or delayed-opening information, call the UPDATE Information Hotline at 667-6622 or 1-877-723-4101 toll free.





Dewart named new RRES-MAQ group leader

Jean Dewart is the new group leader of Risk Reduction and Environmental Stewardship Air Quality and Meteorology (RRES-MAQ). She has been a Laboratory employee since 1981. At the Lab she has



Jean Dewart

participated in a number of teams that have won Los Alamos Achievement Awards for environmental monitoring and analysis. She also led the team that developed the first quality program for the RRES-MAQ.

"As part of the new Risk Reduction and Environmental Stewardship Division, we are working toward making the Laboratory a leader in effective environmental management. RRES-MAQ has a strong history of quality environmental programs and will be an integral part of improving the environmental performance of the Laboratory," Dewart said.

Dewart received a bachelor's degree in atmospheric science from the University of Washington in 1976 and a master's degree in atmospheric sciences from Colorado State University in 1978.

Dasari appointed new D Division deputy

Venkateswara R. Dasari (D.V. Rao) of Probabilistic Risk Analysis (D-11) is the new Decision Applications (D) Division deputy.

Dasari joined the Laboratory in 1998 as a staff member in D-11 working on probabilistic risk assessment, engineering analyses and modeling, manufacturing, certification and facility issues involving



Venkateswara R. Dasari (D.V. Rao)

nuclear weapons and technical-project planning. Dasari also has served as acting deputy group leader for the last several months.

"I am very excited about this opportunity. D Division is recognized nationally for developing and applying science-based decision-analysis methods and models. I look forward to applying these advanced methods in support of critical nuclear-weapons programs and homeland-security programs through cooperative research efforts with other divisions and with the program integration office," said Dasari.

Dasari is the recipient of an Exceptional Performance Award from the United States Regulatory Commission for nuclear-power reactor safety; he also received a Los Alamos Achievement Award and the Department of Energy Albuquerque Office Performance Excellence Award for demonstrated impact on the achievement of DOE Albuquerque Office's strategic vision, mission, goals and objectives related to pit-manufacturing facilities.

Dasari received his master's in technology degree from the Indian Institute of Technology in India and his doctorate in nuclear engineering from the University of New Mexico.

Lab garners six awards for pollution-prevention programs

by John Bass

Five Laboratory organizations and its primary subcontract company have won New Mexico Green Zia Environmental Excellence Awards for their efforts in pollution prevention and environmental excellence. Los Alamos' Neutron Science Center (LANSCE) and Nonproliferation and International Security (NIS) Division's Facility Management Unit (FMU-75) won Commitment Level Recognition. The Risk Reduction and Environmental Stewardship (RRES) Division, formerly the Environmental Science and Waste Technology Division; Engineering, Science and Applications (ESA) and Dynamic Experimentation (DX) divisions; and Johnson Controls Northern New Mexico won Achievement Level Recognition.

The voluntary Green Zia Environmental Excellence Program helps New Mexico businesses achieve environmental excellence by establishing environmental management systems based on pollution prevention. It is sponsored by the New Mexico Environment Department and administered by the New Mexico Environmental Alliance, a partnership of state, local and federal agencies; academia; private industry; and environmental advocacy groups.

Commitment Level Recognition is given to organizations that have made strong commitments to pollution prevention and are establishing systematic pollution-prevention programs.

Achievement Level Recognition is given to organizations that have turned their pollution-prevention programs into prevention-based environmental-management systems and can demonstrate measurable results.

The winners were recognized by Gov. Gary Johnson and Environment Department Secretary John D'Antonio Jr. at a ceremony recently at the Santa Fe Hilton Hotel.

The Governor's Green Zia Environmental Excellence Award, the highest honor awarded, is reserved for organizations that have fully integrated, prevention-based environmental-management systems in place. Winning organizations must have demonstrated significant process improvement, substantial regulatory compliance, measurable waste reduction and have proven leadership in environmental issues within the company and community. Only two New Mexico businesses have received the Excellence Level Award: Intel Corp. in 2001 and McKinley Paper this year.

More information about the Green Zia program is available at www.nmenv.state.nm.us/Green_Zia_website/index.html online. The Laboratory's winning applications are available at the RRES-Prevention Program (RRES-PP) Web site at emeso.lanl.gov/eso_projects/green_zia/Applying/application.html online.



Gov. Gary Johnson, center, recognized Green Zia Environmental Excellence Program recipients at a ceremony recently in Santa Fe. The New Mexico Environment Department sponsors the program. The Dynamic Experimentation (DX) Division was one of six awards the Lab received. Also shown with the governor are from the left, Franco Sisneros, Christine Nelson and Mary Hockaday, all of DX. Photo by LeRoy N. Sanchez

NNSA recognizes ...

continued from Page 1

Trent McCuistian

Trent McCuistian's work was key to the first e-beam from the DARHT second Axis injector that led to successfully meeting the CC-4A requirements. McCuistian works in the Dynamic Experimentation (DX) Division.

Frank Merrill

Frank Merrill of the Physics (P) Division was recognized for leading the LANSCE pRad effort to an unprecedented number of dynamic shots.

Wiley Davidson

Wiley Davidson of Strategic System Engineering (D-3) was recognized for leading BASIS to successful deployments at Salt Lake City and aiding in getting the Bio Defense Initiative approved.

Babs Marrone

Babs Marrone of the Bioscience (B) Division has shown exceptional commitment to protecting the health of our Be workers by leading the development of assays to improve the specificity of Be sensitization tests for Be workers and of genetic markers of Be susceptibility.

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NNSA recognizes ...

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Robby York

Robby York of Advanced Nuclear Technology (NIS-6) is the leading technical expert on second line of defense in the area of active portal monitors of enriched uranium.

Jeffrey Bloch

Jeffrey Bloch of Space and Remote Sensing Sciences (NIS-2) was the team leader on the Genie project. This project has been a major success and received the R&D 100 Awards and a 2001 Distinguished Performance Award.

Cheryl Lemanski

Cheryl Lemanski of the Bioscience (B) Division has done an exceptional job representing BSL-3 and biosafety information to the public, making the subject matter accessible and interesting.

John Pedicini

John Pedicini was recognized for his sustained outstanding contribution to the weapons design community in support of Stewardship.

Mike Macines

Mike Macines of the Applied Physics (X) Division was recognized for work he did on the re-analysis on past nuclear test data — an important component of our stewardship mission.

Amos Lovato and Joe Kleczka

Amos Lovato and Joe Kleczka of the Computing Communications and Networking (CCN) Division are senior system administrators for the Q Machine — they are the key individuals responsible for the installation and stabilization of Q and are doing an outstanding job contributing to the availability of the machine to users.

Danny Olivas

Danny Olivas of the Los Alamos Neutron Science Center was recognized for his superior technical support to proton radiography.

Tim George

Tim George of the Nuclear Materials Technology (NMT) Division was recognized for the accomplishments at TA-55 in Pu pit production, in ARIES development, and in stockpile stewardship measurements.

Earle Marie Hanson

Earle Marie Hanson, Engineering Sciences and Applications (ESA) Division leader, was recognized for ESA division's outstanding technical performance for 2 years running as evaluated by the Division Review Committee, the UC President's Council, and the DOE.

Jill Trehwella

Jill Trehwella, Bioscience (B) Division leader, was recognized for her leadership after Sept. 11 in the pursuit of the anthrax attacks and for creating a focus for new biothreat capabilities in the lab, including the successful creation of a BSL-3 facility.

Special Thanksgiving meal to be served Thursday



ARAMARK Corp. is serving its traditional Thanksgiving holiday meal Thursday in the Otowi Building cafeteria at Technical Area 3 and cafeterias at TA-55 and the Los Alamos Neutron Science Center at TA-53.

The cafeterias are open for lunch from 11 a.m. to 1:45 p.m.

Volunteers sought for middle school mentoring

The Los Alamos Middle School is seeking volunteers with special talents for its Hawk Time mentoring program.

Principal Denise Koscielniak said she needs scientists, artists, writers, photographers and other qualified individuals to tutor students up to one hour every other week.

The program, which started in October, is designed to foster relationships with adults and adolescents, said Koscielniak. She believes the program helps to improve overall attendance and attitudes toward academics.

"The program's going well," said Koscielniak. "Those who have given time had a very positive experience. It was positive for the students as well the adults. We're always looking for volunteers. Everyone has something to share with students."

Koscielniak also said teens are less likely to experiment with drugs, alcohol and sex if they have strong, adult role models in their lives.

All 580 middle school students are expected to participate in Hawk Time, Koscielniak said. Students voted for such activities as after-school tutoring, robotics, creative writing, video production and computers.

"We need as many volunteers as we can get," said Koscielniak.

For more information, contact Koscielniak at 663-2398.



From Los Alamos to the Space Station ...

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Although Phillips never took any of the space walks, he guided and directed others on the crew who were outside the shuttle and space station installing the robotic arm. Phillips said the process required a lot of concentration and simultaneous communications between several individuals involved in the activity. "The robot arm was a very large device much like a human arm but with several joints that allowed it to be folded up into a smaller space for transport," said Phillips. "As a result, the arm required several steps to install and set up, a process that had the space walkers outside the shuttle lifting and aligning the various parts of the arm to get them into place and ready for use," he said.

When he put on his filmmaker cap, Phillips' shot 3-D footage for the IMAX film "Space Station." "I had to carry around this camera that was as big and bulky as a 25-inch television set, which was lot easier to do in the weightlessness of space," said Phillips. He was able to shoot never-before-seen footage of the space station and shuttle in IMAX 3-D, which when viewed with 3-D glasses in an IMAX theater, provides the viewer with a totally immersive experience, an opportunity to see and experience what only a few have seen first hand.

Phillips also talked about the experience of launch and reentry aboard the Space Shuttle. He said from launch to weightlessness was all of six minutes after which the payload doors on the shuttle were opened and the crew went to sleep for eight hours in preparation for the space station docking. Phillips said the crew on his mission worked 16-hour shifts with eight hours of sleep during each 24-hour period. Sleeping in space for some of the astronauts was problematic, getting used to the silence and weightlessness of space as well as the very bright light of a sunrise in space every 90 minutes or so, but Phillips said he slept very well.

He also joked that because of the weightlessness of space sometimes he could find himself stuck and floating in the middle of the space craft with no real way to propel

or navigate the way back to the sides of the craft to grab something to hold onto and pull on. "In those situations," he said "you had to just float there and wait for the air turbulence to 'blow' you back to where you needed to be."

Upon return, bad weather forced the shuttle to land in California, Phillips said. "Here we are in California with our families waiting for us in Florida, and we don't have any money or anything with us; and the next thing we know, we are in the town of Boron at Domingo's Mexican restaurant with the owner waiting to greet us with a bottle of tequila, probably the last thing you should have after 12 days in space," Phillips said. "It turns out the owner was also the mayor of Boron."

Phillips also brought back four medallions that were given to him by the Lab to take on his mission. As a thank you to the Lab, he presented four commemorative plaques incorporating the medallions to Laboratory Director John Browne; Geoff Reeves of Space and Atmospheric Sciences (NIS-1); Terry Hawkins, Nonproliferation and International Security (NIS) Division leader; and Herb Funsten of the Center for Science Space and Exploration (NIS-CSSE). Funsten arranged to give Phillips the medallions commemorating 30 years of Lab and NASA collaboration on space exploration and science.

Phillips also mentioned that Don Pettit, former Lab employee and shuttle astronaut is scheduled to be onboard the shuttle for NASA's upcoming Expedition 6 mission serving as science officer aboard the ISS for four to five months (see Page 8).

Phillips came to the Lab in 1989 as an Oppenheimer Fellow and remained as a staff member in (NIS-1) until 1996. Part of his research at the Laboratory included the study of solar wind in which Phillips was the principal investigator of the solar-wind instrument on Ulysses. Phillips' next visit to the ISS will be as part of the crew on the Expedition 10 mission scheduled for liftoff sometime in 2004. Phillips will be the science officer on this mission, an assignment that will keep him in space for more than six months.



Into the wild blue and beyond

Former Lab researcher scheduled to blast off aboard Expedition 6

by Judy Goldie

Donald Pettit, now an affiliate of Applied Engineering Technologies (ESA-AET) and formerly a full-time technical staff member at the Laboratory, has been chosen by NASA to join the Expedition 6 crew to the International Space Station. The Expedition 6 crew is scheduled to launch this month for a four-month stay aboard the ISS.

Pettit, who will serve as NASA ISS science officer and prime operator of the ISS robotic arm, joins the Expedition 6 crew commanded by Kenneth Bowersox, captain U.S. Navy, and Russian cosmonaut and Mir veteran Nikolai Budarin.

NASA selected Pettit for the astronaut program in 1996. After completing two years of training at the Johnson Space Center, he qualified for flight selection as a mission specialist. Pettit, 47, is one of two former Lab employees chosen by NASA to go into space. John Phillips (see the April 19, 2001, Los Alamos NewsLetter and the story on Page 5) was a crew member on the Space Shuttle Endeavor that lifted off April 19, 2001.

During Expedition 6's time in space, the crew will focus on science, crew health and space-station operations. The crew will continue ongoing experiments that look at the effects of long-term spaceflight, using the crew members as subjects.

Among new investigations slated for the Expedition 6 crew will be two series of experiments to be conducted in the Microgravity Science Glovebox (MSG): Coarsening in Solid Liquid Mixture and InSPACE.

CSLM investigates the interaction of small and large particles in a mixture that can have an effect on the strength of materials with applications from turbine blades to dental fillings and porcelain.

InSPACE, or Investigating the Structure of Paramagnetic Aggregates from the Colloidal Emulsions, seeks basic data on magnetorheological fluids, new "smart materials" that could be used to improve or develop new brake systems, clutches, airplane landing gear and suspension systems.

In early December, Bowersox and Budarin are scheduled to take a six-and-a-half-hour spacewalk. Budarin will become the first Russian to perform a spacewalk in a U.S. spacesuit during standalone ISS operations. Pettit will provide intravehicular support, quarterbacking the spacewalk from inside the station. In addition, he will operate the Canadarm2, the station's robotic arm.

For more information on all the experiments slated for this mission, see http://spaceflight.nasa.gov/station/science/experiments/exp6_expmt.html online.

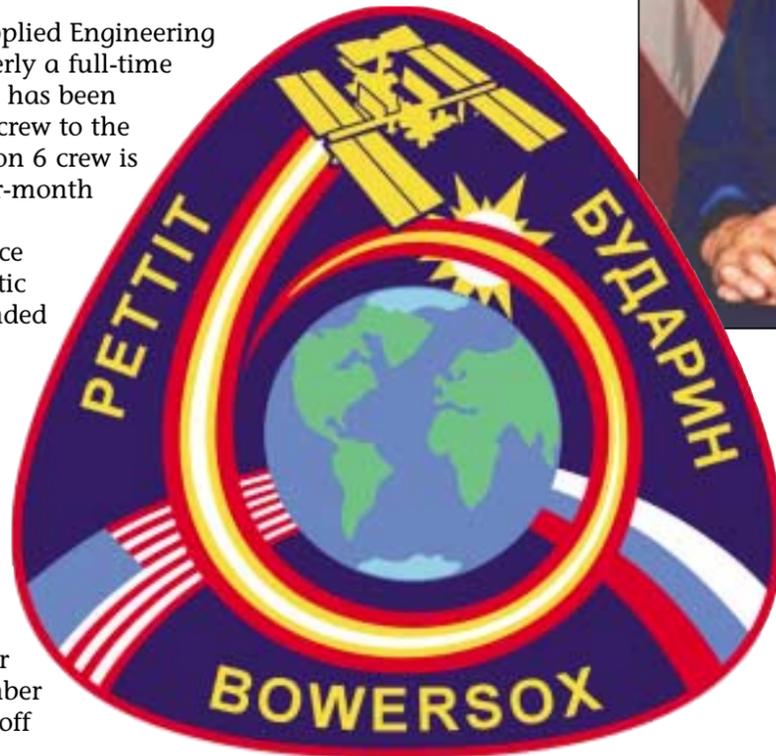
Expedition 6 crew members are expected to spend more than 240 hours on space-station scientific investigations. That will bring the total of all crew research time to about 1,250 hours since continuous human presence began on the space station in November 2000.

Atlantis on STS-114 is scheduled to arrive in March 2003 to take the Expedition 6 crew back to Earth.

Pettit worked at the Lab for 12 years in detonation physics, earth science and chemical engineering. Pettit received his bachelor's degree in chemical engineering from Oregon State University and his doctorate, also in chemical engineering, from the University of Arizona.



Donald Pettit
Photos courtesy of NASA



Track the space station online at
<http://spaceflight.nasa.gov/realdata/tracking/index.html>



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